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<150> JP 2003-196154
<151> 2003-07-11

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aagcgtgggc aggatgaagc 20

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<210> 52
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<212> RNA
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<220>
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<400> 52
uuaggguaua ccacgucgau u 21

<210> 53
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<220>
<223> sense strand of mLCE-siRNA-11

<400> 53
gcauccguug uucaguugcu u 21

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<212> RNA
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<220>
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<400> 54
uucguaggca acaagucaac g 21

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caacacagca accagaaact caag 24

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cggagaagct gcctatcaac 20

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acttgtgcat cttggcgtct g 21

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<220>
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aaatctctga tccacctcac 20

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<400> 81
cacccatccc gagagtcagg 20

<210> 82
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<220>
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<400> 82
gtgggccggc atgatgatag 20

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<400> 83
cttcaaatgt gcaatccatg gctccgt 27

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<400> 84
gtagcgtctg cacgcccta 19

<210> 85
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<400> 85
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<400> 86
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<210> 87
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<400> 87
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acttagccgc ttcaagcccg atgtg 25

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agaaggtgcc cgagtggc 18

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<400> 91
cagtaggctc catggatggc 20

<210> 92
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<220>
<223> PCR primer

<400> 92
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<210> 93
<211> 25
<212> DNA
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<220>
<223> hLCE-5BBamHI

<400> 93
ggatccaaca tgtcagtgtt gactt 25

<210> 94
<211> 25
<212> DNA
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<220>
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<400> 94
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aacatgtcag tgttgacttt ac 22

<210> 96
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taatacgact cactataggg 20

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<220>
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<400> 100
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<210> 101
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<220>
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<400> 101
gtgatgtggg cataccagtg c 21

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<220>
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<400> 102
cacagtgatg gcgtgatacc ag 22

<210> 103
<211> 22
<212> DNA
<213> Artificial

<220>
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<400> 103
catcacggcg gccacgccat ag 22

<210> 104
<211> 265
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<213> Homo sapiens

<400> 104

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Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
            20                  25                  30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
        35                  40                  45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
    50                  55                  60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65                  70                  75                  80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85                  90                  95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100                 105                 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
        115                 120                 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130                 135                 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
                165                 170                 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180                 185                 190
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Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
        195                 200                 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
    210                 215                 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225                 230                 235                 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
                245                 250                 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
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<400> 105

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1               5                   10                  15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
            20                  25                  30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
        35                  40                  45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
    50                  55                  60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65                  70                  75                  80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85                  90                  95

Ser Val Ala Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100                 105                 110
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Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
        115                 120                 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130                 135                 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
                165                 170                 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180                 185                 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
        195                 200                 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
    210                 215                 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225                 230                 235                 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
                245                 250                 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
            260                 265
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<212> PRT
<213> Artificial

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<223> hLCE(C225A)

<400> 106

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1               5                   10                  15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
            20                  25                  30
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Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
        35                  40                  45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
    50                  55                  60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65                  70                  75                  80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85                  90                  95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100                 105                 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
        115                 120                 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130                 135                 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
                165                 170                 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180                 185                 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
        195                 200                 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
    210                 215                 220

Ala His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225                 230                 235                 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
                245                 250                 255
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Lys Met Arg Lys Thr Thr Lys Ala Glu
260 265

<210> 107
<211> 265
<212> PRT
<213> Artificial

<220>
<223> hLCE(H141A)

<400> 107

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Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
20 25 30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
35 40 45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
50 55 60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65 70 75 80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
85 90 95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
100 105 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
115 120 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu Ala Trp Tyr His
130 135 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145 150 155 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
165 170 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
180 185 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
195 200 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
210 215 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225 230 235 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
245 250 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
260 265

<210> 108
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<212> PRT
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<223> hLCE(H144A)

<400> 108

Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
1 5 10 15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
20 25 30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
35 40 45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
50 55 60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65 70 75 80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln

85 90 95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
100 105 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
115 120 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr Ala
130 135 140

His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145 150 155 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
165 170 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
180 185 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
195 200 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
210 215 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225 230 235 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
245 250 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
260 265

<210> 109
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<400> 109

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Met Asn Met Ser Val Leu Thr Leu Gln Glu Tyr Glu Phe Glu Lys Gln
1               5                  10                  15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
            20                  25                  30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
        35                  40                  45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
    50                  55                  60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65                  70                  75                  80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
                85                  90                  95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
            100                 105                 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
        115                 120                 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
    130                 135                 140

Ala Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val His Ala Val
                165                 170                 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180                 185                 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
        195                 200                 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
    210                 215                 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
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225 230 235 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
245 250 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
260 265

<210> 110
<211> 265
<212> PRT
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<223> hLCE(H174A)

<400> 110

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1 5 10 15

Phe Asn Glu Asn Glu Ala Ile Gln Trp Met Gln Glu Asn Trp Lys Lys
20 25 30

Ser Phe Leu Phe Ser Ala Leu Tyr Ala Ala Phe Ile Phe Gly Gly Arg
35 40 45

His Leu Met Asn Lys Arg Ala Lys Phe Glu Leu Arg Lys Pro Leu Val
50 55 60

Leu Trp Ser Leu Thr Leu Ala Val Phe Ser Ile Phe Gly Ala Leu Arg
65 70 75 80

Thr Gly Ala Tyr Met Val Tyr Ile Leu Met Thr Lys Gly Leu Lys Gln
85 90 95

Ser Val Cys Asp Gln Gly Phe Tyr Asn Gly Pro Val Ser Lys Phe Trp
100 105 110

Ala Tyr Ala Phe Val Leu Ser Lys Ala Pro Glu Leu Gly Asp Thr Ile
115 120 125

Phe Ile Ile Leu Arg Lys Gln Lys Leu Ile Phe Leu His Trp Tyr His
130 135 140

```
His Ile Thr Val Leu Leu Tyr Ser Trp Tyr Ser Tyr Lys Asp Met Val
145                 150                 155                 160

Ala Gly Gly Gly Trp Phe Met Thr Met Asn Tyr Gly Val Ala Ala Val
                165                 170                 175

Met Tyr Ser Tyr Tyr Ala Leu Arg Ala Ala Gly Phe Arg Val Ser Arg
            180                 185                 190

Lys Phe Ala Met Phe Ile Thr Leu Ser Gln Ile Thr Gln Met Leu Met
        195                 200                 205

Gly Cys Val Val Asn Tyr Leu Val Phe Cys Trp Met Gln His Asp Gln
    210                 215                 220

Cys His Ser His Phe Gln Asn Ile Phe Trp Ser Ser Leu Met Tyr Leu
225                 230                 235                 240

Ser Tyr Leu Val Leu Phe Cys His Phe Phe Phe Glu Ala Tyr Ile Gly
                245                 250                 255

Lys Met Arg Lys Thr Thr Lys Ala Glu
            260                 265
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